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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,278	08/22/2006	Masaaki Hirano	050395-0387	8071

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EXAMINER	
HOFFMANN, JOHN M	
ART UNIT	PAPER NUMBER
1791	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,278	HIRANO ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-10,15 and 16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10,15 and 16* is/are rejected.

7)☒ Claim(s) *4 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/26/2010 has been entered.

Allowable Subject Matter

It appears Claim 16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Although no art rejection for claim 15 is made, it should not be assumed that it contains allowable subject matter, due to the other rejections below.

Claim Objections

Claims 4-5 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claim 1 requires that the measured pressure coincides with the target value which is set for each heating position. However dependent claim 4 requires the target value is based on calculated value determined by pipe dimension. These are mutually exclusive requirements. Thus claim 4 does not limit claim 1, rather it takes it to a

mutually exclusive scope. More simply: claim 1 has been amended to encompass previous claim 2, which was directed to the species of figures 1-4. However original claims 3-4 were directed to the specie of figure 5-6. Thus claim 4 cannot require that the target value is the 'set' value from claim 1, but then it is also a 'calculated' – since they are mutually exclusive.

Claim 4 is not treated further on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 6-10 and 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "pattern-controlled" is indefinite as to its meaning. (As is "calculation pattern" in claim 16). The present application does not define the term, nor give any specific examples, nor describes such in a way that would indicate to one of ordinary skill is meant by the term.

As indicate on pages 2-3 of the 3/5/2010 Office action: Examiner interpreted the term broadly: that the rates are controlled based (in part) by the various inherent patterns within the Uchiyama process. Examiner notes that his dictionary reports a definition for "pattern" as " a natural or chance configuration". However in the 5/26/2010 response applicant applicant argues that the inner volume and the amount exhausted

are not pattern controlled. However applicant offers no explanation as to why the prior art control cannot be considered pattern control. Examiner assumes that applicant intends a particular meaning for "pattern control" but there is no indication as to what it might be. One of ordinary skill would not be able to reasonably ascertain what sort of controls are pattern controls and which are not. The public cannot be expected to be able to avoid infringement without knowing what is meant by "pattern control".

As to calculation pattern – this term is also undefined and undescribed and there is no example. One of ordinary skill would not be able to reasonably determine what calculations constitute a pattern and which do not. Is addition a pattern? Is multiplication and subtraction together a pattern?

Claim 1, lines 7-10: there is no antecedent basis for “the amount", "the exhaust gas", “the amount of the buffering gas" or "the buffering gas", thus making it unclear if all of these are required or are optional. There is also not antecedent basis for “the internal pressure” (lines 13-14) which makes it confusing as to what is required, since figure 1 shows pressure gauge 15 as measuring a pressure that is external to the pipe, not internal. None of the figures suggest the pressure is measured inside the pipe.

At lines 9, 11, and 15 of claim 1 there is confusing antecedent basis for “the buffering gas inlet portion” – as well as “the other one” at line 9. Examiner notes that line 7 of claim 1 refers to "a buffering gas inlet portion" however it has the term "or" before it. This means that "a buffering gas inlet portion" is not required at line 7. It is

unclear whether a buffering gas inlet portion is required by the other recitations of the term in the claims.

There is confusing antecedent basis for "the exhaust portion" at line 8 and at subsequent locations in claim 1. This is because line 6 refers to two exhaust portions, and it is unclear if the subsequent usage of "the exhaust portion" are suppose to be limited to one or the other or if it could be both.

Claim 15: there is confusing antecedent basis for the "pattern-controlled" – it is unclear whether it is in addition to the pattern control of claim 1, or if it is an additional control. It is also unclear what is meant by the control unit being "on a gas line" and that the control unit is controlled. The present figures shows the control unit 27 being spaced from all of the conduits carrying gas, and there is nothing which suggest that the control unit is being controlled, rather the control unit does the controlling. Thus one would not be able determine what is meant by the claims.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 15: There is no support for the controlling a control unit disposed on a gas line. Examiner simply cannot find anything which supports new claim 15. The control units disclosed 27, 127, etc. are not on a gas line. Nor is there any disclosure of controlling a control unit. Throughout the specification it is clear that the control unit does the controlling; it is not what is controlled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchiyama 4813989.

Claim 1: The first five lines of present claim 1 is clearly anticipated by Uchiyama, for example at col.1, lines 8-15 and col. 2, lines 32-40. 9 is (or has) an exhaust portion and 8 is (or has) a buffering gas inlet portion. They are connected - at least indirectly - to the silica glass pipe 1. The buffering gas is feedback controlled by feature 11.

As to the "pattern control" according to a flow rate pattern corresponding to heating positions. It is inherent that the amounts of each gas used in Uchiyama is according to the pattern of everything – including a flow pattern and heating positions. That is: as simple matter of conservation of mass, what goes in = the amount deposited

+ the amount exhausted. And the amount deposited is controlled (at least in part) by the pattern of flow, and the heating positions. Rearranging the equation: the amount exhausted= The amount of material inputted - the amount deposited.

Examiner considers the various amounts to be for the entire process. That is claim stipulates a “step of depositing a glass layer”. Examiner considers the step as ‘comprising' the depositing a layer - thus can encompass depositing all the layers.

As to the last 5 lines newly added to claim 1: As per col. 3, lines 9-11 there is a target value that is used for each heating position. Although 7 is not shown being connected directly to the tube, col. 2, lines 47 describes it being "at the other end of reaction tube 1". Also, it appears to be located at substantially the same effective position as applicant’s 15 – thus both should measure the same thing.

Claim 7 refers to "the ratio" and "a control range" - however nowhere is either of these explicitly recited. Thus rather than construing an inherent control range in the claim 1 process, Examiner interprets claim 7 to only limit those situations where there is a control range. Since Uchiyama does not disclose a control range, claim 7 does not serve to define over Uchiyama.

Claim 8 : see col.3, lines 15-17.

Claim 9: Uchiyama discloses keeping the pressure constant- thus the rate of change would be 0 Pa per second.

Claim 10: the pressure is always at least atmospheric, thus Uchiyama has a duration of 0.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama.

Uchiyama does not disclose the deposition rate. It would have been obvious to deposit the glass as fast as possible, so as to make the preform (and thus the fiber) as fast as possible.

Response to Arguments

Applicant's arguments filed 5/26/2010 have been fully considered but they are not persuasive.

It is argued that claim 4 has been amended to overcome the objection. Examiner fails to see how the amendment overcomes the objection. Claim 4 still requires that the target value is calculated, and claim 1 still requires the target value is set.

It is also argued that the amount of gas exhausted from port 9 in Uchiyama is not controlled by any means. This is not very relevant, since the claims do not require control is performed by “means”. As indicated in the rejection, the amount is controlled by the totality of all the other flows.

It is argued that the Uchiyama does not disclose the use of a flow rate pattern corresponding to heating position. Examiner fails to see the relevance: the claims do not require the “use” of a pattern. The limitation merely requires that the gas is "pattern-controlled according to a flow rate pattern". This merely means the pattern control must be consistent with the pattern. MOREOVER, the specification never mentions “using” (or the “use”) of a flow rate pattern - thus one would never interpret claim 1 as requiring its use.

It is also argued that "Uchiyama does not [pattern] control the amount of deposited". This is not very relevant because the claim does not require controlling the amount of material deposited.

As to the proposed correction to Examiner's location (paragraph spanning pages 8-9 of the 5/26/2010 response): this is clearly incorrect because of the mixed units. One cannot subtract a volume (the inner volume increased) from a mass (the amount of material inputted). To subtract volume from mass would be like subtracting temperature from length. Also, one would could not subtract an 'inner volume increase', because there is no volume increase in Uchiyama – the inner volume decreases.

The arguments regarding the 'present disclosure' are not very relevant because it the rejection is based on what is claimed. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is argued that Uchiyama fails to disclose the use of a control unit as required by claim 15. Examiner notes, the present application also fails to disclose the use of the control unit as required by new claim 15 (see above rejection).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Thursday, roughly 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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